Salinity and Refractometers

The refractometer is used to measure the amount of dissolved salts in ocean water, or salinity. To ensure accuracy, volunteers will need to perform periodic calibration of their refractometers (at least once per month).

To Calibrate Your Refractometer:

- *DO NOT PERFORM CALIBRATION IN THE FIELD!*
- Use *distilled* water to rinse the cover and prism 3 times (remove all salt crystals); wipe clean.
- Fill prism with distilled water and close the cover.
- Look through the eyepiece, the sample should read zero (0) parts per thousand (ppt).
- If the reading is different, remove rubber cap on top of refractometer.
- Turn the calibration screw with the provided screwdriver while looking through the eyepiece until the boundary line falls on "0".

General Use:

- If you are using the same pipette to read salinity for different samples, you must rinse the pipette with the new sample 3 times to remove your previous sample.
- Wipe the prism clean with a lens cloth.
- Hold the refractometer at an angle, so the face of the prism is horizontal.
- Open the cover; fill the prism with the sample solution.
- Close the cover; look through the cover and make sure the sample solution covers the entire prism (Figure 2). If there are bubbles or gaps on the prism, you will not get an accurate reading.
- Hold the refractometer up to the brightest light.
- Look through the eyepiece; if your scale is not in focus, adjust it by turning the focusing ring.
- Read the right side of the scale where the blue and white boundaries meet (Figure 3).
- Record your results in parts per thousand (ppt).
- When each measurement is complete, the sample must be cleaned from the prism using fresh water and lens paper or lens cloth.

Precautions:

- Do not drop or handle roughly.
- Do not hold the refractometer under the faucet or splash with water.
- Do not apply rough or abrasive materials to the prism.

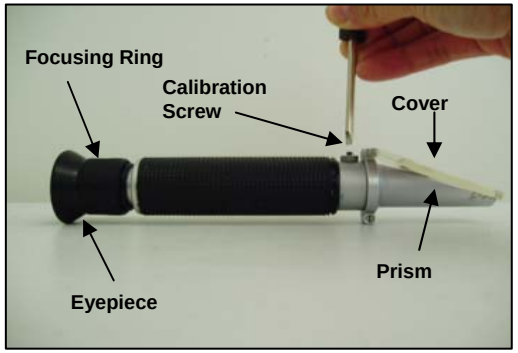

Figure 1: Parts of a Refractometer

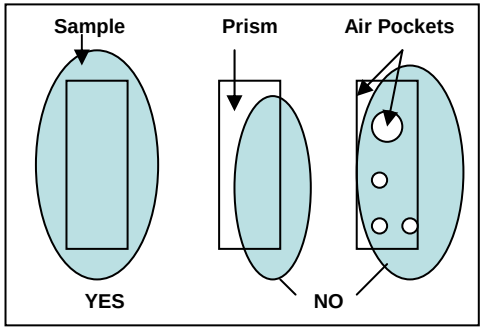

Figure 2: Sample on Prism

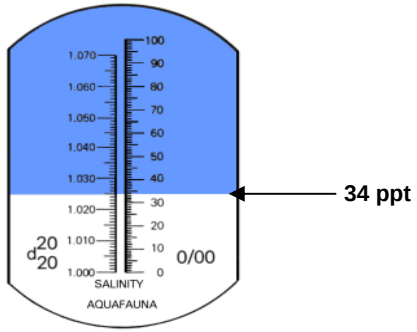

Figure 3: Salinity Reading